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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,498

08/14/2008

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EXAMINER

IQBAL, SYED TAHA

ART UNIT

PAPER NUMBER

4181

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,498	Applicant(s) MINACHI ET AL.	
	Examiner SYED IQBAL	Art Unit 4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/19/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 12, 13 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/27/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election Acknowledged

Applicant's election without traverse of the invention of group I of claims 1-11, 14 and 15 in reply filed on 12/19/2008 is acknowledged.

Since election is made without traverse, restriction is deemed proper, therefore, **the restriction requirement is maintained, and made FINAL.**

Group II drawn to claims 12, 13 and 16 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group of invention, there being no allowable generic or linking claim. Claims 1 and 4-6 are presented for examination on the merit.

Status of Application

Claims 1-16 are pending and the elected claims 1-11, 14 and 15 are presented for examination. Claims 12, 13 and 16 are withdrawn as being non-elected claims from further consideration.

Claim Objections

Claims 1-11, 14 and 15 are objected to as they contain improper Markush language, as described by MPEP § 803.02. For example, claim 1 declares "...A is at least one element selected from Sr, Ba..." This should read: ...A is at least one element selected from the group consisting of: Sr, Ba...

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "...predetermined time in a predetermined temperature..." and "...to a predetermined size..." seems indefinite as the meets and bounds of the subject matter are unclear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyota US 5866028, in view of Gorter US 2977312.

In regards to claims 1, 10, 14 and 15, Toyota teaches a method of manufacture for a W-type, $\text{SrO} \cdot 2(\text{FeO}) \cdot n(\text{Fe}_2\text{O}_3)$ where n is between 7.2 and 7.7 (Abstract). The formula is written in a different manner than that of the instant claim. However, the similarities are clear when the values of n are plugged in. For example, if n is 7.7 then, this formula becomes $\text{SrO} \cdot \text{Fe}_2\text{O}_2 \cdot \text{Fe}_{15.4}\text{O}_{23.1}$. If variables are plugged in then, $\text{AFe}^{2+}_a\text{Fe}^{3+}_b\text{O}_{26.1}$ where A is Sr, a is 2 and b is 15.4. These are consistent with the values of the instant claims. Toyota also mentions that within the process after calcining, C with 0.1-0.5 weight percent was added before the compacting step (Col.2 lines 40). The process steps of Toyota are further discussed.

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Toyota mentions that raw material mixtures were calcined and then, this mixture was pulverized into particles having an average particle size of $0.06\text{ }\mu\text{m}$ (Col.4 line7-12). The calcining can be performed at temperatures between 1150°C and 1400°C (Col.5 line10). Followed by compacting under magnetic field and sintering (Col.7 lines1-4).

Toyota does not mention that the steps, where heat was provided to the mixture and pulverizing the mixture occurred, were repeated before compacting and sintering.

Gorter teaches a method of making a ferromagnetic material (Col.1 line15). Gorter mentions heating, also defined as sintering in an atmosphere with small oxygen content and with at least 1200°C (col.3 lines 55-60), of finely powdered mixtures of components being involved (Col.3 line 15). Also mentioned (Col.3 line 35) is that the reaction product, from the initial material which is pre-sintered and powdered, may be again ground and the powder thus produced may be re-sintered. The repetition of this sequence of operations may be repeated once or several times is also supported.

The conditions, of the instant claim, for the step labeled as heat treatment are similar to the step of calcination of Toyota. This is self evident since Toyota declares that the step can be performed in a nitrogen atmosphere for 1 hour (col.7 lines 50-55). The temperature for this step can be 1150°C as taught by Toyota (Col.5 lines10). These conditions are significantly similar to those of the step mentioned as heat treatment. Since this step is so similar to the heat treatment step a similar resultant product can be predicted to occur. **In regards to claim 11**, the heat treatment step occurs at almost parallel conditions to that of Toyota. Therefor the heat treatment step of Toyota will inherently eliminate or reduce the particles of a size less than $0.05\text{ }\mu\text{m}$.

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In regards to the second milling step of instant claim 1, which is further defined by instant claims 7, 8 and 9, Toyota suggests that the calcined powders can be pulverized into fine particles in a range from $0.07\text{ }\mu\text{m}$ to $3\text{ }\mu\text{m}$ (Col.5 lines 16-21). Since in the instant claims, the average particle size of the particles after the final milling step has to be $0.08\text{ }\mu\text{m}$ - $0.8\text{ }\mu\text{m}$ the scope is encompassed by the scope of particle size as described by Toyota. Furthermore **as of claims 7-9**, Toyota mentions a preferred particle size of $0.06\text{ }\mu\text{m}$. Also mentioned is that if desired pulverized particles of $0.07\text{ }\mu\text{m}$ - $3\text{ }\mu\text{m}$ can be produced (Col.5 lines 16-21). This might suggest that the pulverization step can be modified to change the particle size as desired. The size ranges of the instant claims are anticipated entirely by Toyota.

Since the multiple steps of the instant claims seem similar to those of Toyota, modified in that they include repetition of the first two steps before the performing the final two steps. Gorter mentions a similar process of manufacture for ferromagnetic materials and encourages the repetition of the heating and milling steps. At the time of invention it would have been obvious to one having an ordinary level of skill in the art to perform the steps of Toyota and repeating the intermediate steps by using the rationale from the work performed in Gorter.

It is the examiners position that it would be obvious to try to repeat the steps of Toyota because there is a reasonable expectation of success as shown by Gorter. This establishes a prima facie case of obviousness as discussed by The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 82 USPQ2d 1385, 1395-97 (2007) and MPEP §2143.

In regards to claims 2-6, Toyota teaches the temperature of the heating step can be 1150°C and can be performed for 1 hour in a nitrogen environment. Even though the reference is silent upon the oxygen content, the language of the instant claims does not prohibit the oxygen content from being zero.

Toyota does not expressly mention the temperature can fall to 1000°C or lower. However, “generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical.” MPEP §2144.05. The examiner cites, *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) to support that the optimization of ranges is a prima facie case of obviousness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED IQBAL whose telephone number is (571)270-5857. The examiner can normally be reached on Monday to Thursday 7:30am EST to 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 5712720579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. I./

Examiner, Art Unit 4181

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4181